bility that the change in the mode of life of the Esquimaux in their new country (to which they were probably forcibly driven), and a change in the manner of carrying the child in infancy, may have caused a material alteration in the form of the head, whilst other peculiarities of face and form remained nearly the same.

The Esquimaux infant is carried in the hood of the mother's coat, and its head is perfectly free, with no pressure on one part more than another.

The peculiar form of head of the Red Indian of America may in a greater or less degree be caused by the kind of cradle used. The baby is fastened in its cradle in such a manner that the whole weight of the little creature's head rests almost constantly on the back part or occiput: the effect would be to reduce the longitudinal and increase the lateral diameter of the skull.

Of course I do not allude to the intentional and artificial alteration of the form of the skull, as practised among the Chenooks.

The discovery of many reindeer and muskcattle by the Swedish (? German) expedition on the East Coast of Greenland, as mentioned by Mr. Howorth, where previously none had been seen, may be accounted for by these animals—after having been much hunted and harassed by the natives near Smith's Sound and Melville Bay, on the north-west extremity of Greenland—migrating to the east shore, where, finding food and rest, they remained unmolested to increase and multiply, which they do very rapidly under such conditions.

Deer, muskcattle, and hares were found in great numbers, and very tame and in good condition on the Parry Islands, in latitude 76°, and on Banks Land in latitude 74° N., by several of the recent Arctic expeditions, and these do not appear to have migrated southward in the autumn. I have no doubt that were those localities visited by a band of hunters, these animals would after a few years become shy and timid, and finally move off to a more safe position, either north or south, as their own instinct or the trending or nature of the country might lead them. This I have known to occur frequently in America farther to the south.

These sudden and unforeseen migrations (being an exception to the usually very regular habits of the animals) are among the chief causes of the suffering and deaths by starvation among the Esquimaux.

Although what I have written above has been the result of my own observation, it may have been spoken or written by some one else before, much better than I can pretend to do. If so this communication will find its way, as it deserves, to the waste-basket.

JOHN RAE

A Scientific "Bone-Setter"

THE interesting article on "Bone-Setting" in NATURE for May 9 induces me to narrate my own experience. More than twenty years ago, in the city of New York, while swinging upon parallel bars in the gymnasium, I fell backwards, and to save my head threw out my left arm, thus catching the fall upon the palmer end of the radius, and, as it proved, fracturing the neck of the radius at the point of articulation with the ulna. I sent for one of the most eminent surgeons, then Professor and surgeon to a large hospital, but several hours elapsed before his arrival; and by that time the swelling and inflammation at the elbow had all the appearance of a sprain, and the fracture was not detected. Some days afterwards the surgeon discovered that there had been a fracture, and that a false adhesion had begun. This was broken up, and the arm set in splints, according to the approved method. After the usual time the bandages were removed, but the forearm was incapable of flexion, extension, or rotation. Every appliance was used to restore it to its normal condition, such as lifting, friction, sponging, &c., but without effect. The arm became useless, and began to shrivel. It was examined by the first surgeons of New York and other cities. Some thought that the radius had adhered to the ulna, others that there was a deposit of interosseous matter, but none could suggest a remedy.

Nine months after the accident I chanced to be in Philadelphia, and called upon Dr. Rhea Barton, who, though he had retired from practice, consented to look into my case. After careful examination, he said, "If you will consent to suffer the pain (it was before the use of chloroform) I will agree to restore the arm." He went on to say that pressure demonstrated a slight crepitation at the joint, and also a slight elasticity; and this assured him that the trouble was in the ligaments; that in consequence of the long imprisonment of the arm in splints, while under inflammation, a ligamentous adhesion had taken place, and the synovial fluid had been absorbed. He then applied one hand firmly to the elbow and the other to the palmer extremity of the radius, and, diverting my attention by anecdote and wit, thus relaxing the resistance of the will to pain, he gave a sudden wrench, there was a sound like the ripping of cotton cloth, and the arm lay outstretched before me, quivering with pain, but capable of motion. Mechanical appliances for a few weeks so far completed the restoration that I have ever since had about four-fifths of its normal use and power.

Now, Dr. Barton did, upon scientific knowledge, what the "bone-setter" does empirically—"by manipulation, suddenly and forcibly tearing asunder the adhesions" formed between the ligaments and the bone; and he assured me that the whole difficulty would have been averted had the arm, when under treatment for fracture, been gently moved at times according to nature. I think he has published a monograph upon this point, but I cannot now refer to it.

JOSEPH P. THOMPSON

Berlin, May 22

Pathological Legends

MR. TYLOR speaks of vampires as illustrations of Savage Animism, and regards them as inventions to explain wasting disease. The records of such unseen agents point to two classes of vampires, one of which has nothing to do with wasting disease. To take two extreme cases: the story of Grettir's conflict with Glam the house churl, contrasts with the Vampire Cat of Nabeshimes, as told by Mitford in the "Tales of Old Japan." The Northern hero seeks the evil one and overpowers him, but his success is dearly bought, for evil temper and nervousness never leave him, and his after life is unlucky from these two causes. The Japanese Prince is visited nightly by the counterfeit of his lovely concubine, he pines away, and is only saved by the energy of a retainer, who slays the fair persecutor. Here are types of two kinds of malady; one is truly wasting, the other is of that kind which ends in apoplexy, epilepsy, acute mania, or if death is not speedy and sudden, dyspepsia may reduce the hero to Grettir's state without obviously impairing his strength. The Japanese story gives the common superstition among polygamous people with whom progressive exhaustion is not uncommon, as "Hawke's Voyages" quaintly explain. The Grettir Saga gives a pagan version of what figures more than once in Christian legends as saintly intervention. Thus, the Scandinavian invader blasphemes the English saint, who straightway appears to him, and points the finger; the blasphemer drops down dead. Glam, the churl, gorges himself with food, and goes to the hill, the next morning he is found crushed and distorted, and the horror of his punishment is proportioned to his crime, for he ate meat on a Church fast, and it was doubtless sweet to his neighbours to recall the fact that they heard his shrieks when sitting in church. Glam's successors perish violently, one of them being found convulsed and broken on Glam's cairn, just as in more places than one in Scotland men have been found in convulsions near places which superstition had made terrible on account of some great crime. But Grettir, for twenty years after his fight with Glam, leads a life of incessant fighting as an outlaw. He cannot go alone, his nerve is shaken, he sees things in the dark, and his temper is irritable. It is of course impossible to separate out the various forms of unseeen agency to which men in rude times were subject. But the Vampires of the North and Incubi are members of the same family; the Vampires of Asia belong to another family. The former represent indigestion, the results of gross overeating and drinking, aggravated, doubtless, by the circumstances that the opportunities of excess were not frequent, and that semi-starvations occurred often between copious meals. The demons are mostly men; in all cases they give rise to violent conflicts, in which, if a man dies, his distorted convulsed body suggests the presence of a corporeal enemy, a reasonable enough notion among those to whom natural death meant, in the case of a strong man, death by the sword. The latter represents the results of lechery in some form or other; there is no tale of conflict, though now and then sudden death is accompanied by convulsions such as, we know, frequently terminate cases of general paralysis and *Tabes dorsalis*. The correspondence between the Northern Berserker and the furious Malay who runs amuck, is interesting in reference to this contrast. The insanity of the Berserker is that of an individual; the persecution of the Northern vampire falls on the whole family of the sufferer; and, while it is difficult under ordinary circumstances for any large number of people to become simultaneously affected by genuine

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fury (though Mr. Wallace furnishes a possible analogy to ancient custom in what we may call a sociable Amok), the contagion of fear makes it easily intelligible how even a district might come to see and hear what had no existence save in the disturbed imagination of one. The Incubi and Suscubi of the Middle Ages in Europe may be paralleled at the present day in asylums, and, now as then, are met with among those who have placed themselves in conditions similar to the unhealthy ones of the Convent.

In reading over the confessions of the witches in England and Scotland, it is strange to find how exactly the language employed expresses the frequently described sensations of women labouring under uterine and ovarian disease. Doubtless, not all thus suffered; but the confusion once made and heard would be repeated by the unhappy imbeciles from whom chiefly the witch ranks were recruited. JOHN YOUNG

Glasgow University

The Vervain and Yellow Fever

ALLOW me to say a few words on the report of the English Vice-Consul at Ciudad, Bolivar, concerning the efficacy of the Vervain plant as a remedy for yellow fever and black vomit (NATURE, March 21, p. 412). The plant in question is *Stachytarpha jamaicensis*, Vahl, a very common and rather troublesome weed, called in Spanish America "Verbena," in the British West Indies "Vervain," and in the Brazils "Gervaô." Its medicinal properties have been greatly exaggerated, though it is certainly somewhat aromatic and astringent; but in yellow fever and black vomit its efficacy is next to nothing. For a good description of the plant and some notes on its supposed and real virtues, I refer to Auguste de St. Hilaire, "Plantes usuelles du Brésil," plate 39 (Paris, 1824). Another tolerably good figure is given by Sloane, "The Natural History of Jamaica," plate 107, 1, who mentions several diseases against which it was used in his times (and probably still), stating finally, that "it is good against charms." A. ERNST

Caracas, Venezuela, May 6

ELECTRIC VALENTINE

TELEGRAPH CLERK ♂ TO TELEGRAPH CLERK ♀

"THE tendrils of my soul are twined
With thine, though many a mile apart;
And thine in close-coiled circuits wind
Around the magnet of my heart.

"Constant as Daniell, strong as Grove;
Seething through all its depths, like Smee;
My heart pours forth its tide of love,
And all its circuits close in thee.

"O tell me, when along the line
From my full heart the message flows,
What currents are induced in thine?
One click from thee will end my woes."

Through many an Ohm the Weber flew,
And clicked this answer back to me—
"*I am thy Farad, staunch and true,*
Charged to a Volt with love for thee."

$\frac{dp}{dt}$

[NOTE BY THE EDITOR—

Ohm = Standard of resistance.
Weber = Electric current.
Volt = Electromotive force.
Farad = Capacity (of a condenser).

Velocity of Puck, $\frac{\text{Once round the Earth}}{\text{40 minutes.}}$

" of Ohm, $\frac{\text{Quadrant of meridian of Paris}}{\text{1 second.}}$

$\therefore$ 1 Ohm = 600 Pucks.]

NATURAL SCIENCE AT OXFORD

IT has been resolved in Convocation that the Curators of the University Chest be authorised to pay to the credit of the Museum Delegates the sum of 1,000*l.*, to be employed at their discretion for the maintenance and improvement of the Collections in the Museum; a full statement of the expenditure for these purposes being prepared annually and reported to Convocation.

MAGDALEN COLLEGE.—*Demyships and Exhibition.*—There will be an election at this College in October next to not less than Six Demyships and One Exhibition. Of the Demyships, one at least will be Mathematical, one at least in Natural Science, and the rest Classical. The Exhibition will be in Mathematics, is of the value of 75*l.* per annum, inclusive of all allowances, and is tenable for five years.

EXETER COLLEGE—There will be an Election to a Natural Science Fellowship in this College on Wednesday, June 10. The Examination will be in Biology. The Fellow elected will be required to reside and take part in the instruction of the College. The election will take place under the conditions of the following special ordinance of the College:—"Any Fellow who shall be elected previous to June 1874, with the declared purpose of taking part as Tutor or Lecturer in the College, shall *ipso facto* vacate his Fellowship on ceasing to reside. Provided also that if the said Fellow shall have taken part as Tutor or Lecturer in the College for seven academic years, consecutively or not, or for part of the time in one office and part in the other, he shall retain his Fellowship, subject only to the other causes of avoidance of Fellowship. Any fellow so elected shall hold himself bound, on pain of the loss of his Fellowship, to take part, if required, as Tutor or Lecturer in the College. If any such Fellow be incapacitated through ill health for educational work in the College, it shall be competent for two-thirds of the Governing Body, with the sanction of the Visitor, to dispense with the required residence during the continuance of such ill health." The Fellow elected under the ordinance will be subject in all other respects to the Statutes of the College. The Examination will begin on Tuesday, June 11, and no person can be admitted as a Candidate who has not passed all the Examinations necessary for the degree of Bachelor of Arts in the University of Oxford, or been incorporated as a graduate in the University.

SECOND PUBLIC EXAMINATION.—*Pass School.*—In pursuance of the statute, the Board of Studies for directing the Examination of Candidates who do not seek Honours at the Second Public Examination, and also the Examination in the Rudiments of Faith and Religion, gives notice that the books and subjects which may be offered in the Easter and Trinity Terms 1874, and until further notice, are—

In Group C.—(1) The Elements of Plane Geometry, including the doctrine of similar triangles. This includes the portion of Geometry treated of in Euclid Books I.-IV., with the definitions of Book V., and such parts of Book VI. as treat of similar triangles. These subjects may be read in any other treatise. The Elements of Trigonometry, including the trigonometrical ratios of the sum of two angles, the solution of plane triangles, the use of logarithms, and the mensuration of plane rectilinear figures. (2.) The Elements of the Mechanics of Solid and Fluid Bodies, including the composition and resolution of forces, centre of gravity, the simple machines and the application of virtual velocities to them, the laws of motion, the laws of falling bodies, the motion of projectiles, the pressure of fluids on surfaces, the equilibrium of floating bodies exclusive of the theory of stability, the methods of determining specific gravities, the laws of elastic fluids, simple hydrostatical and pneumatical machines. (3.) The Elements of Chemistry, with an elementary practical examination. Candidates who intend to offer this

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